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Technology Center 2100

o: Commissioner of Patents and Trademarks Washington, D.C. 20231

Fr: George O. Saile, Reg. No. 19,572 20 McIntosh Drive Poughkeepsie, N.Y. 12603

Subject:

Serial No. 09/883,449 06/18/01

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A METHOD TO VERIFY THE PERFORMANCE OF BIST CIRCUITRY FOR TESTING EMBEDDED MEMORY

Grp. Art Unit: 2133

## INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation In An Application.

The following Patents and/or Publications are submitted to comply with the duty of disclosure under CFR 1.97-1.99 and 37 CFR 1.56. Copies of each document is included herewith.

U.S. Patent 6,012,157 to Lu, "System for Verifying the Effectiveness of a RAM BIST Controller's Ability to Detect Faults in a RAM Memory Using States Indicating by Fault Severity Information," teaches a system to evaluate the effectiveness of a BIST controller by simulation.

- U.S. Patent 5,822,228 to Irrinki et al., "Method for Using Built in Self Test to Characterize Input-to-Output Delay Time of Embedded Cores and Other Integrated Circuits," discloses a method for measuring propagation delays of embedded cores and of integrated circuits.
- U.S. Patent 5,513,339 to Agrawal et al., "Concurrent Fault Simulation of Circuits with Both Logic Elements and Functional Circuits," teaches a method to simulate a circuit containing both logic gates and memory blocks to determine fault detection.
- U.S. Patent 5,475,624 to West, "Test Generation by Environment Emulation," discloses a method to aid development of fault detection test patterns using emulators.
- J. Dreibelbis, et al., "Processor-Based Built-In Self-Test for Embedded DRAM", IEEE Journal of Solid-State Circuits, Vol. 33, No. 11, November 1998, pp. 1731-1740, teaches a BIST circuit wherein additional flexibilty is achieved through the use of processor elements, such as an instruction counter, a instruction memory, and a branch controller.

"Built-In Self-Test (BIST) Using Boundary Scan", Texas Instruments Corp., Dec. 1996, pp. 1-8, discloses a boundary scan test architecture that supports BIST.

## TSMC-00-415

I. Burgess, "Test and Diagnosis of Embedded Memory Using BIST," Mentor Graphics Corp., Sept. 2000, pp. 1-6, teaches an augmentation to a BIST controller to enable a scan out of failed memory data to aid in diagnosis.

Sincerely,

George<sup>O</sup>O. Saile Reg. No. 19572